



UCBD30120SA

SiC-SBD DIODE

SILICON CARBIDE SCHOTTKY BARRIER DIODES

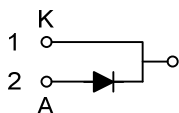
DESCRIPTION

The **UCBD30120SA** is an SiC Schottky barrier diodes (SBDs) feature high reverse voltage ratings. In addition to SBDs with short reverse recovery time (t_{rr}), provides 1200V SBDs with a junction barrier Schottky (JBS) structure that provide low leakage current (I_r) and high surge current capability required for switched-mode power supplies. These devices help improve the efficiency of switched-mode power supplies.

FEATURES

- * Zero Reverse Recovery Current
- * Humidity Resistant
- * High Frequency Operation
- * Temperature-Independent Switching Behavior

SYMBOL



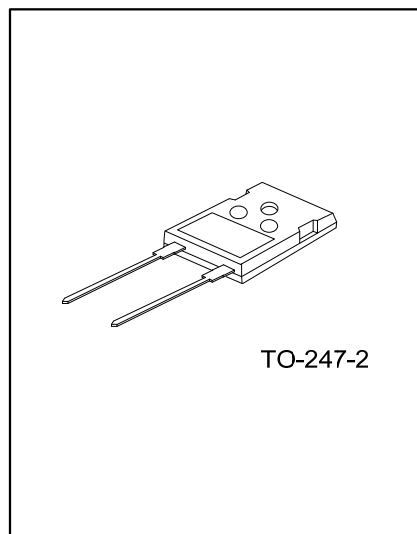
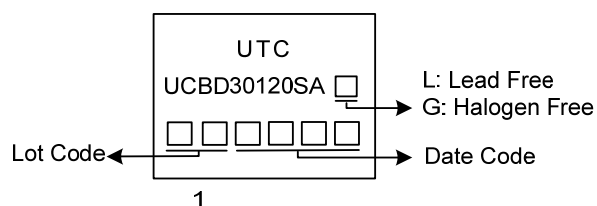
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UCBD30120SAL-T472-T	UCBD30120SAG-T472-T	TO-247-2	K	A	Tube

Note: Pin Assignment: K: Cathode A: Anode

UCBD30120SAG-T472-T	(1)Packing Type	(1) T: Tube
	(2)Package Type	(2) T472: TO-247-2
	(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free

MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_C=25°C, unless otherwise specified)

Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.

PARAMETER		SYMBOL	RATINGS	UNIT
Repetitive Peak Reverse Voltage		V _{RRM}	1200	V
Surge Peak Reverse Voltage		V _{RSM}	1200	V
DC Blocking Voltage		V _R	1200	V
Continuous Forward Current	T _C =25°C	I _F	64	A
	T _C =135°C		34	A
	T _C =140°C		30	A
Repetitive Peak Forward Surge Current	T _J =25°C t _P =10ms, Half Sine Wave	I _{FRM}	244	A
Non-Repetitive Peak Forward Surge Current	T _J =25°C t _P =10ms, Half Sine Wave	I _{FSM}	272	A
	T _J =110°C t _P =10ms, Half Sine Wave		251	A
Power Dissipation	T _C =25°C	P _D	254	W
	T _C =110°C		110	W
	T _C =150°C		42	W
Operating Junction Temperature		T _J	-55 ~ +175	°C
Storage Temperature Range		T _{STG}	-55 ~ +175	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

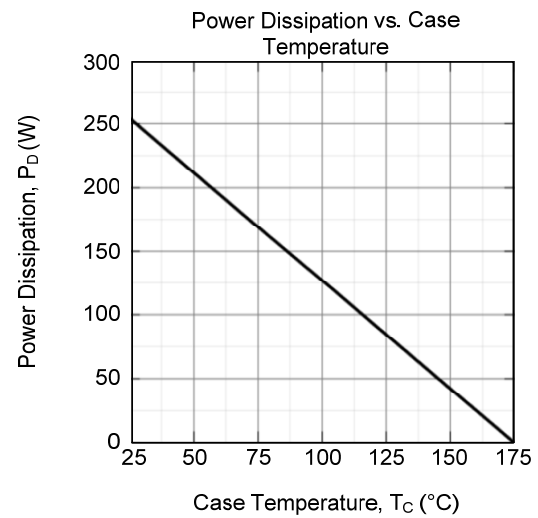
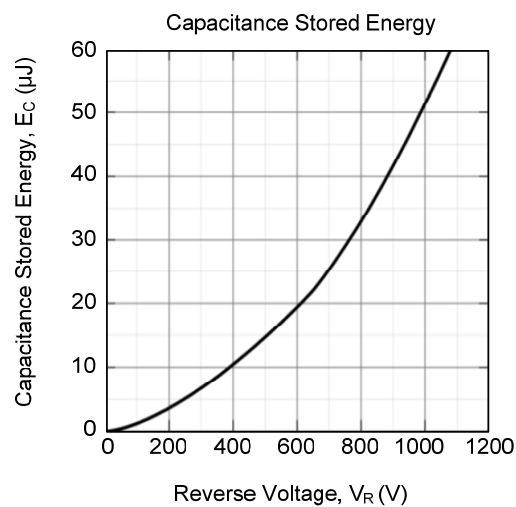
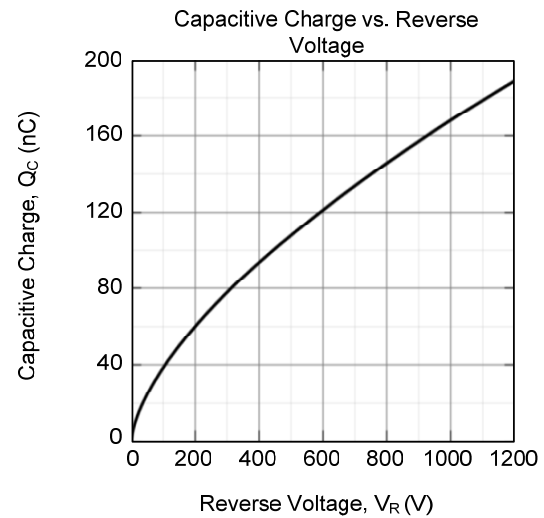
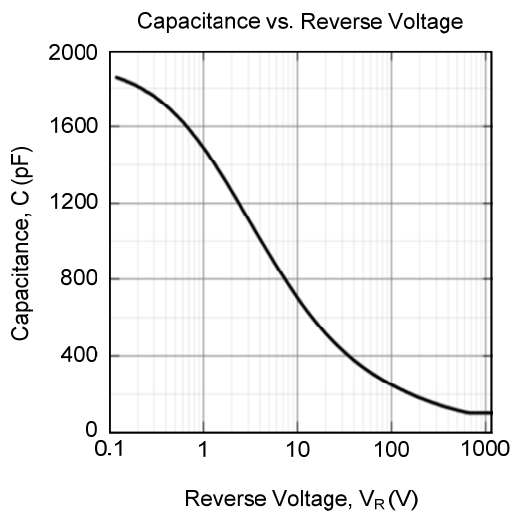
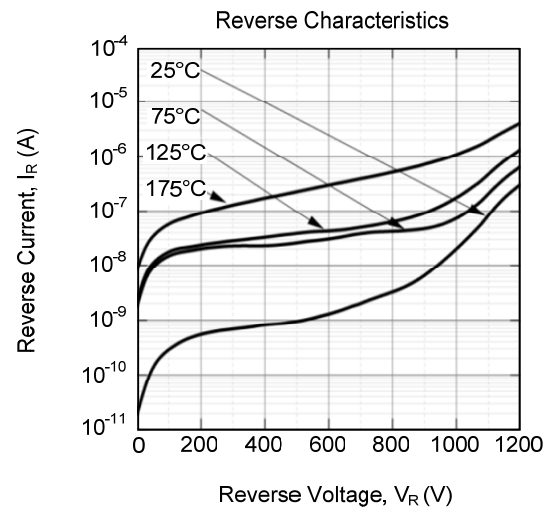
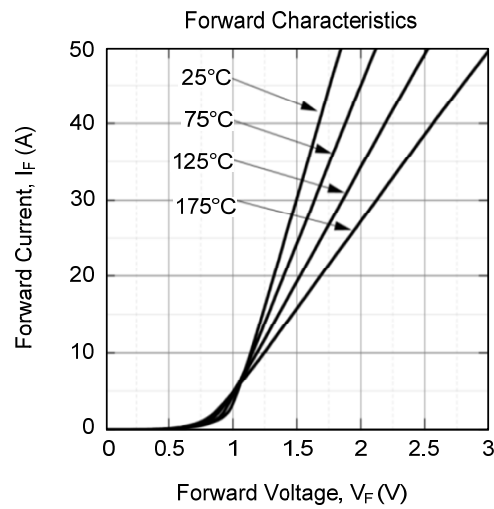
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	θ _{JC}	0.59	°C/W

■ ELECTRICAL CHARACTERISTICS

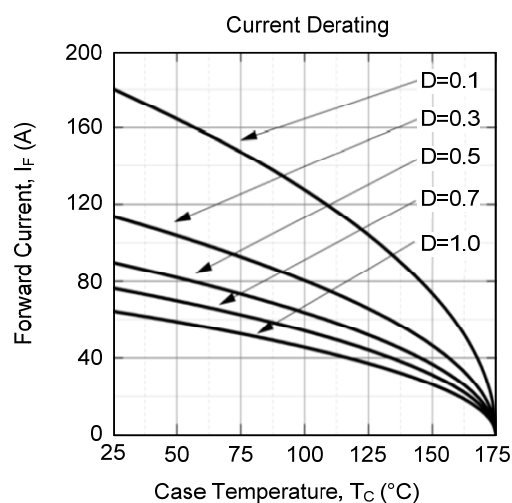
(Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
DC Blocking Voltage	V _{DC}	T _C =25°C	1200			V
Forward Voltage	V _F	I _F =15A, T _J =25°C		1.24		V
		I _F =30A, T _J =25°C		1.5	1.7	V
		I _F =30A, T _J =175°C		2.12		V
Reverse Current	I _R	V _R =1200V, T _J =25°C		2	100	μA
		V _R =1200V, T _J =175°C		10		μA
Total Capacitive Charge	Q _C	V _R =800V		146		nC
Total Capacitance	C	V _R =1V, f=1MHz		1485		pF
		V _R =400V, f=1MHz		129		pF
		V _R =800V, f=1MHz		102		pF
Capacitance Stored Energy	E _C	V _R =800V		33		μJ

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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